

PAARA

GRAPHS

Feb 86

Clipperton

New Roster



**THE OFFICIAL NEWSLETTER
OF THE PALO ALTO AMATEUR
RADIO ASSOCIATION
AND
THE MENLO PARK C.D. AMATEUR RADIO CLUB**

PARRAGRAPHS is the official newsletter of the
Palo Alto Amateur Radio Association &
the Menlo Park Civil Defense Radio Club.

Editors Note: -

I do not have the new copy of the Club Officers,
They will be posted on this page next month.

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Membership in PAARA is \$6.00 per calender year which
includes a subscription to Paaragraphs. Make payment to
:PAARA, P.O. Box 911, Menlo Park, Ca. 94026

Club Net 147.45 MHZ Monday @ 8:30 PM

Bob Vallio W6RGG

THE 1985 CLIPPERTON EXPEDITION

The first Clipperton expedition since 1978, this was an international operation by 16 amateurs from the U.S., Tahiti, Costa Rica, Mexico, Japan, France and Germany. They made about 31,000 contacts with 130 countries during the 6 day venture. Rusty Epps W6OAT was designated "chef de la expedition" by the French members, and there's a chance that Rusty may come along with Bob to give us the slide show. As many of you will remember, Rusty gave us the Kingman Reef expedition slide show some years ago. Bob and Rusty have been alternating for the flood of ham club requests for the Clipperton presentation, so don't miss this one!

NEXT MONTH: Dr. D.K. Reynolds K7DBA, known for inventing the isopole antenna -- set up by Ron W6VG. He has recently designed a new antenna for AEA which was written up in a ham magazine (QST?) according to Kurt K6AL

Title: REVEALING ANTENNA SECRETS

BY MAKING RADIO WAVES VISIBLE

OTHER PLANNED FUTURE ATTRACTIONS:

George K6GZK on "the link", a chain of VHF & UHF repeaters
Woody W6NEY of coherent CW fame, the famous "Herman" from 146.76 whose sea stories not too many can challenge.

PAARA will soon be starting a novice-class licensing program. We will be teaching both code and theory sufficient for a novice class level. Any members interested in volunteering some of their time are encouraged to participate. I urge all members capable of helping out to step forward, since this is a club sponsored program. Thank you for your support

KD6ZL

Training Co-ordinator

(for more info, call John at (415) 366-1638, or
Alan (415) 326-6430

In this issue of PAARA-Graphs is a new Roster. If you find any mistakes, please let us know so they may be corrected. Catch Bill (KA6LZI) at the meeting, or give him a call at (415) 325-9808.

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*46 AZP	Larson, Alan	01/86	326-6430	*K4 KYU	Brandon, Charles	04/83	328 6041
MB6 BCU	Allen, Kenneth	02/85	---	KR6 KYU	Feiler, Kurt	01/86	365-2857
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KR6 BPM	Duaker, Ken	01/85	322-6984	KR6 KYZ	Peterson, Ruth	01/86	---
*46 BOD	Walker, Ed	03/85	---	*46 KZJ	Daily, Larry	01/86	415-593-9150
K06 C	Hakler, Harry	01/85	---	*46 LII	McEnnerney, Jack	01/86	591-8526
*46 CBI	Olson, Les	11/85	---	NR6 LIJ	Stankey, Jerry	01/86	964-6584
MB6 CFU	Johnson, Ed	01/84	---	MB6 LIL	Jenkins, Mr. D.	02/84	---
*46 CHI	King, William Jr.	01/86	595-0258	NR6 LNU	Tucker, Gerald	01/85	326-4908
*46 CHL	Swenson, Lloyd	01/86	368-8503	KR6 LT	Katz, Nolan	01/85	366-7286
*K6 CHT	Ice, George E.	01/86	593-0661	KR6 LZI	McElhinney, W.G.	01/86	325-9808
MB6 CNI	Manders, Ken	01/86	366-7389	*K6 MPN	Doster, Landry	01/86	368-8156
MB6 CUP	Hinton, Peter	01/81	---	*K6 MTZ	Christofferson, G	01/85	---
*46 DOU	Bubeck, Robert	01/86	856-3340	*46 NA	Streib, Fred	02/84	326-7846
NR6 DNR	Chalmers, Doug	01/84	---	KR6 NNN	Taylor, Robert	05/84	857-9138
KR6 DNR	Adler, Tom	02/84	---	NR6 NOX	Ferranti, Rick	01/83	---
*46 DU	Edberg, Eric	01/85	948-1748	KR6 NOX	McDermott, Charles	01/85	941-6556
*46 DVB	Tallan, Bill	01/85	326-0112	KR6 NEX	Sakols, Dan	05/84	326-1433
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NR6 ENC	Chan, Loren	01/85	408-629-1852	MB6 NNL	Ryan, Ralph	01/86	325-2213
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MB6 FFC	Bach, Mike	01/85	---	G13 OEN	Nixon, George	01/86	854-6445
*46 FGL	DeLiban, Robert	01/85	415-322-6910	NR6 OHQ	Clark, Vernon	01/85	---
NR6 FHC	Lapp, Kevin	01/84	364-2654	*K6 OL	Wallace, Robert	01/84	851-0249
*46 FLE	Wardlaw, Vance	01/86	854-0803	MB6 OOO	Root, I. Eugene	01/83	323-2666
*46 FLX	Bartelme, John	01/86	323-6295	NR6 P	Schooter, William	01/84	325-1352
KR6 FNR	Enge, Robert	12/85	415-366-5427	*46 PFC	Talbert, Elmer	05/84	---
KR6 FRK	Fraher, John	01/86	967-3822	*46 PGQ	Brodie, David H.	05/84	323-0353
*K6 FS	Stuntz, Steven	01/86	322-4952	MB6 OPU	Chandler, Frank	01/86	322-7078
NR6 FSQ	Hausafus, Ed	01/86	366-5640	K06 QZ	Battelle, Bard	01/85	854-6848
KR6 FUR	Harris, Dave K.	03/85	---	MB6 RRF	Lile, Irene	01/84	851-7473
UE3 FZK	Korsak, Andy	01/86	366-5228	NR6 ABC	McCollum, Sid	01/85	321-6868
N16 G	Dean, Erik	01/82	408-736-0320	K06 AG	Croft, William	01/84	---
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*46 GEP	Cary, Charles	01/86	323-6401	NR6 ROM	Stein, Seymour	01/86	967-0362
*46 GND	Tiffany, Willard	01/85	324-4524	*46 RUS	Adachi, Dick	01/86	---
KR6 GRU	Alexander, Mike	02/81	324-9245	*46 RY	Conboy, Terry	05/82	---
*K6 GZR	Smith, Ron	01/85	---	*K6 SEM	Wheeler, Bob	02/85	459-2340
*46 HBJ	Lazier, John	02/83	326-0594	NR6 SOI	Morton, Bob	01/86	---
NR6 HLE	Schumacher, Len	01/85	591-4385	MB6 STW	Curry, Dan	03/84	---
*46 HNI	Krawetz, Howard M	01/84	739-7936	*46 STV	Deelley, Dale	02/84	325-5240
MB6 HAZ	Griffith, Bill	06/83	322-4551	NR6 SZX	Callander, George	01/86	856-1752
K06 ID	Velton, Perry	01/86	366-9481	*46 TFT	Russell, Al	03/84	365-4258
*K6 ISH	Matson, Walter K.	03/85	---	*K6 THV	Lile, Shannon	01/84	851-7473
*46 ISQ	Troster, John	01/86	854-3939	K06 TH	Willis, Jim	01/86	---
MB6 IYS	Zaner, Bill	01/84	328-2677	NR6 U	Peters, Dan	03/84	---
*K6 JBR	Scherf, Tom	01/85	365-4066	*46 UCE	Martin, Hank	02/85	493-9046
MB6 JFH	Harper, David	03/84	509-276-835	NR6 UIH	Riv Rieu, Barry	01/84	326-2020
KR6 JHO	Dean, Wallace	01/82	---	NR6 UD	Helman, Paul	07/82	961-3165
*46 JIQ	Wood, Steve	06/85	---	*K6 URO	Porter, Wallace	06/85	494-7038

*N6 URT	Smith, Dan	04/83	325-9995
*W6 UG	Panton, Ron	01/86	854-4814
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*K6 WD	Hotz, Preston E.	04/84	325-8900
KB6 WP	Daniel, Dave	05/85	325-3347
*W6 WQX	Shovlin, Jim	01/85	— —
NR6 X	Reitz, Leonard	01/84	364-3022
*W1 YC	Murphy, William	05/84	— —
WA6 YSO	Dorrance, Dave	01/85	— —
*K6 YT	Canham, Fred	01/85	948-9238
KA6 ZCU	Allen, Jim	04/84	— —
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nc	Frye, Bill	01/85	326-2610
nc	Vanderbeek, Herb	01/86	493-6397
nc	Learned, Jim	05/84	— —
nc	Bhaisa, Farokh	01/84	— —
nc	ek, Herb	01/86	493-6397

QST To All World Class Chess Players

I'm afraid I don't have any news to report to all you farbov fans; but I do have some good news for the rest of us. You say you haven't played chess since high school, and there aren't any chess players on two meters anyway? Well why not join your peers in our task of putting two meters to good use with local radio chess games?

Since you can't tell the players without a program; here's the current lineup: Jim, N6MPX in Santa Clara is the top dog so far managing to scare off the local opponents. Jim is playing in the 1800s ratings, and is the man to beat. Next in skill level is the top challenger allen, KB6BzH from San Mateo, with a high 1600s rating and looking for trouble. I've come in third so far, with my best attempt at top dog, but causing a draw-by-stalemate after a tough game with Jim, which lasted over 5 $\frac{1}{2}$ hours. Also included as part of the regulars are Pat, KB6Hzm; and Chris KB6LJF. We also have a second round going with myself and Rob, KA6NAN and were neck and neck out of the gate.

A small group of us have recently started to play chess, for the past several weeks, on two meter radio. The usual arrangement is to use 145.230 W6APZ as a calling frequency, to arrange the game which is then played on 147.300 WB6V1G repeater, the official chess repeater for the Bay Area according to the trustee; and occasionally on the 145.370 Belmont machine; and sometimes simplex where possible. The games are usually over an evening after 8PM and last into the wee hours of the morning, but were trying to cut back to two hour games. The night varies from Thurs. through Sunday, with one evening per week being all we can stand for now.

As you might have guessed, it is not that easy playing chess by radio. Firstly, we've gone to algebraic notation, using files lettered A through H, and ranks numbered 1 to 8. Secondly we have started using small chess computers, and the chess program SARGON III on various micros. In order to better referee the games, and keep the move disputes down to a minimum. The reality is that we keep an ongoing ragchew in progress during the game, with several people following along on their own boards. The distractions being provided by the players are supplemented by comments from the gallery of listeners suggesting moves which help to further interfere with the games. I really have to admit that the comments, and distractions are in themselves, as much fun as the game in progress, I mean where but on ham radio can you discuss a game while its being played, and get away with it? Certainly not at the local unfriendly chess games with rules of silence, and noisy chess clocks ticking away and sounds of people getting ill under tournament pressure...

One purpose of this brief article is to let you know that chess is alive and well on two meters, and we need all of you to help join the fun, establish a working protocol for smoother running games, and have fun with the rest of us "amateur" chess players keep a funny and entertaining form of radio on the air.

TECHNICAL NOTES ON PACKET RADIO 2 Andy Korsak VE3FZK p.1

Last month's article was a basic introduction to the nuts and bolts of packet transmissions, and I got some feedback requesting clarification, so this month I am including diagrams. Also, I left out one very important distinction between packet and RTTY: packets get retransmitted automatically when the receiver doesn't send back an acknowledgement (ACK) packet.

To review last month's notes briefly, VHF packets consist of frequency shifted tones with FM as the base modulation, using 1200 & 2200Hz for 1200 baud on 2 meters. In HF packet there are no specified tones -- they use SSB with 200 Hz shift at 300 baud. Ken WB6MLC of SPECS uses it, for further information. The NRZI (non-return-to-zero-inverted) modulation used is described by the diagram on the next page. When the data to be sent has a 1 bit, the same tone just continues to be output, and when the data has a 0 bit the tone frequency swithes to the other one. There is a rule (to prevent losing synchronization): after 5 "1" bits a 'fake' "0" bit is inserted -- the receiver is supposed to remove the next "0" that comes after five 1 bits.

p.2

ASCII text

R

A

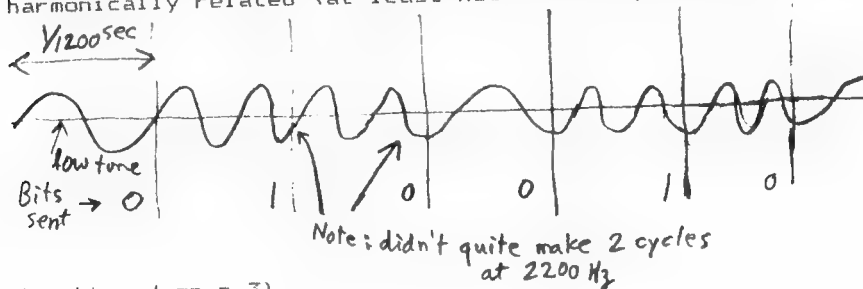
D

I

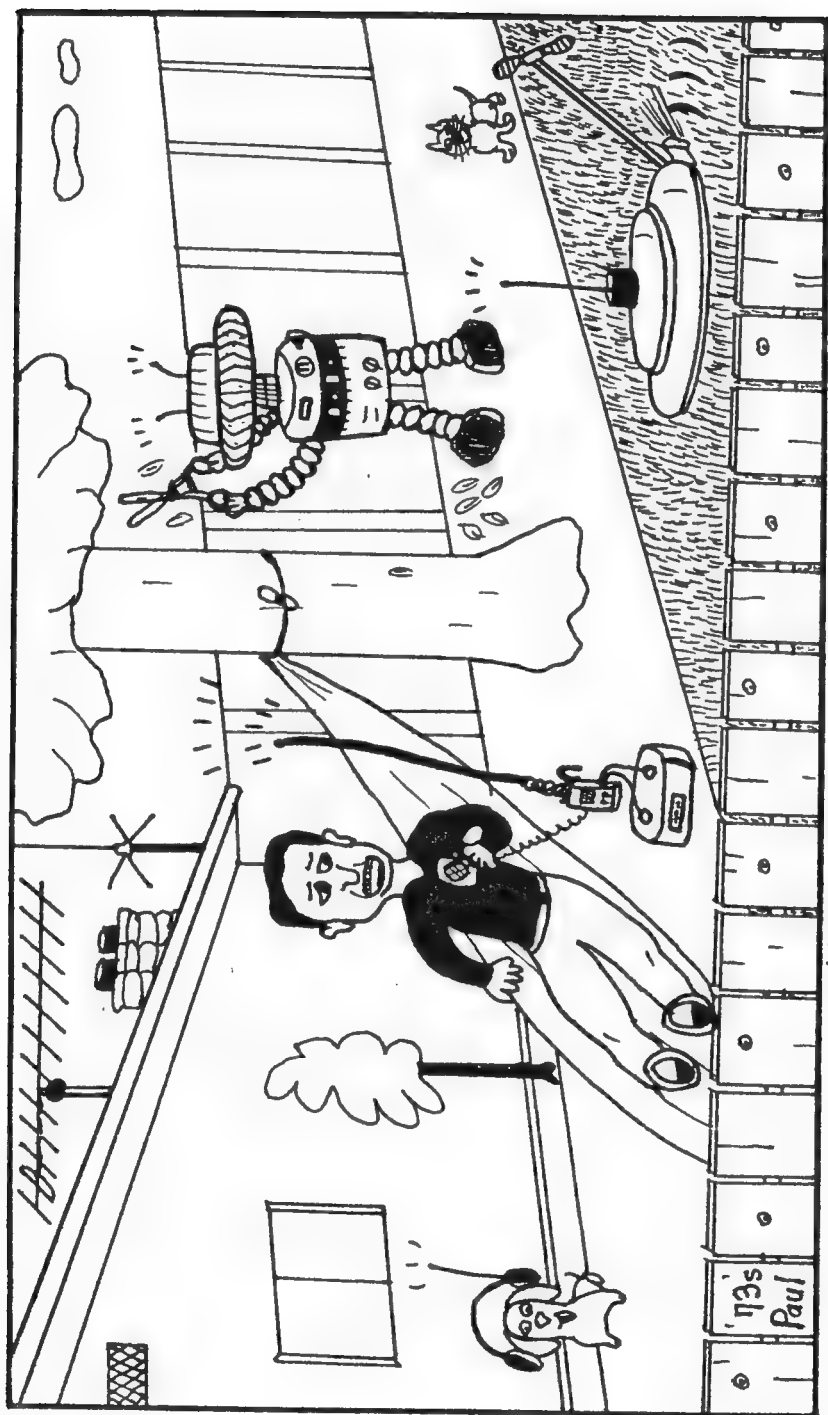
O

Bits sent (least significant first) & tone freq. sent
 01001010 10000010 00100010 10010010 11110010
 LHLHLHLL HHLHLHLL HLHLHLHL HHLHLHLH LLLLLHLHL...

I assumed that the initial tone was the low one. Note that the hi/lo state below each bit is considered to be the one right after the bit was received by the NRZI "modulator". The diagram below demonstrates what the actual audio frequency might look like -- the actual wave shape is hard to represent because the 1200 & 2200 Hz are not harmonically related (at least not in a simple way).



(continued on p.3)



"caution : HAM AT WORK "

(packet article cont'd

p.3)

OK, now you know how packets work at the "hardware level", which is Level 1 of the 7 ISO (International Standards Organization) established levels. By the way, another thing I forgot to say last month: there is a very good description of packet radio, including the ISO levels, in the ARRL handbook of 1985 (I guess the 86 version is even better).

Now let's clarify the Level 2 packet aspects I described last month. Packets are sent using bits grouped by 8 into bytes. The first thing always sent is one or more "flag" bytes of the form 01111110 which are used to get the sender and receiver initially synchronized. The next 7 bytes are the destination call sign -- the 7-th byte is used for a single digit station "extender" when a ham sets up a digipeater using his call sign. Next comes the sender's call sign and up to 8 digipeater call signs, also 7 bytes each. Next comes a "control" byte. In a regular "information" packet, next comes a FID byte (Protocol-Identifier) and the information bytes (cont'd on p.4)

(packet article p.4)

(text or graphic image data or whatever, but must be in bytes, i.e. a multiple of 8 bits). Then comes a 16-bit checksum and finally one or more flags, used to define the end of the packet. The information can't exceed 256 bytes, of which only 128 are to be used for data, the others being recommended for network control, according to the AX.25 PROTOCOL as of Oct.10, 1982.

The control byte is as follows:

PACKET TYPE	CONTROL BITS
.....1.....2.....3.....4.....5.....6.....7.....8...	
Information..0....{tx.sequence#}...P/F....{rx.sequence#}	
Supervisory..1....0.....S1....S2...P/F....{rx.sequence#}	
"Unnumbered".1....1.....M1....M2...P/F....M3....M4....M5	

where:

P/F is the Poll/Final bit, S1 etc. are supervisory function designator bits, e.g. QSL, and M1 etc. are "unnumbered modifier bits", used presumably for network control.

All information packets get assigned a sequence number, so the QSL's can apply to the right packet! I'm presuming your first packet may get to the receiver after your second one, if the first one gets clobbered somewhere in a network of digipeaters, but I'm just learning all about this stuff myself now -- maybe that's not the reason for sequencing.

Don't forget the digital communications net on 145.23 Wed. 7:00PM & the Bay Area computer net on 147.33 Wed. 9:00PM. 73 Andy



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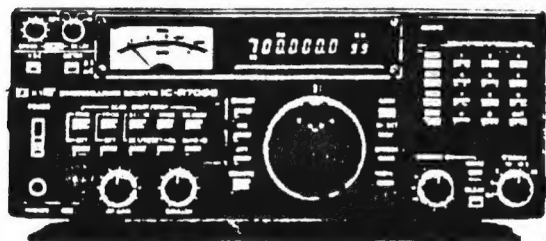
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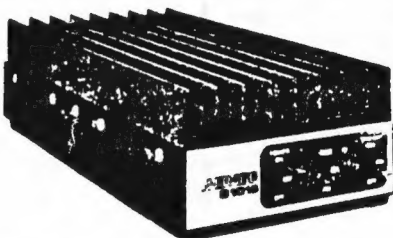
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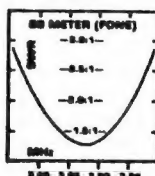
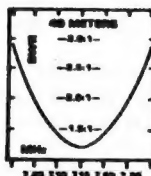
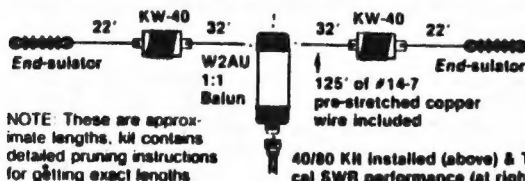
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